

SEQUENCE LISTING

<110> Donoho, Gregory
Turner, C. Alexander Jr.
Nehls, Michael
Friedrich, Glenn
Zambrowicz, Brian
Sands, Arthur T.

<120> Novel Human Kinase Proteins and
Polynucleotides Encoding the Same

<130> LEX-0046-USA

<150> US 60/156,511

<151> 1999-09-28

<160> 13

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 561

<212> DNA

<213> homo sapiens

<400> 1

atggaaaagt atgaaaaatt agctaagact ggagaagggt cttatgggggt tgtattcaaa	60
tgcagaaaca aaacctctgg acaagtagta gctgttaaaa aatttgtgga atctgaagat	120
gacctgttg ttaagaaaat agcactaaga gaaatacgta tggtgaagca attaaaacat	180
ccaaatcttg tgaacctcat cgaggtgttc aggagaaaaa ggaaaatgca tttagttttt	240
gaatactgtg atcatatact tttaaatgag ctggaaagaa acccaaattg agttgctgat	300
ggagtgtatca aaagcgtatt atggcaaaaca cttcaagctc ttaatttctg tcatatacat	360
aactgtattc acagagatat aaaacctgaa aatattctaa taactaagca aggaataatc	420
aagatttgtg acttcgggtt tgcacaaatt ctgagttgga cttcatcttt ctctggtgcc	480
tccttgattg gcttaatagt tgaccttctg aattcttttt ctgccaatc agagattttt	540
ctctggcctt ggaaccattg c	561

<210> 2

<211> 187

<212> PRT

<213> homo sapiens

<400> 2

Met Glu Lys Tyr Glu Lys Leu Ala Lys Thr Gly Glu Gly Ser Tyr Gly	
1 5 10 15	
Val Val Phe Lys Cys Arg Asn Lys Thr Ser Gly Gln Val Val Ala Val	
20 25 30	
Lys Lys Phe Val Glu Ser Glu Asp Asp Pro Val Val Lys Lys Ile Ala	
35 40 45	
Leu Arg Glu Ile Arg Met Leu Lys Gln Leu Lys His Pro Asn Leu Val	
50 55 60	
Asn Leu Ile Glu Val Phe Arg Arg Lys Arg Lys Met His Leu Val Phe	
65 70 75 80	
Glu Tyr Cys Asp His Thr Leu Leu Asn Glu Leu Glu Arg Asn-Pro Asn	

				85					90					95					
Gly	Val	Ala	Asp	Gly	Val	Ile	Lys	Ser	Val	Leu	Trp	Gln	Thr	Leu	Gln				
			100					105						110					
Ala	Leu	Asn	Phe	Cys	His	Ile	His	Asn	Cys	Ile	His	Arg	Asp	Ile	Lys				
		115					120					125							
Pro	Glu	Asn	Ile	Leu	Ile	Thr	Lys	Gln	Gly	Ile	Ile	Lys	Ile	Cys	Asp				
	130					135					140								
Phe	Gly	Phe	Ala	Gln	Ile	Leu	Ser	Trp	Thr	Ser	Ser	Phe	Ser	Gly	Ala				
145					150					155					160				
Ser	Leu	Ile	Gly	Leu	Ile	Val	Asp	Leu	Leu	Asn	Ser	Phe	Ser	Ala	Asn				
			165					170						175					
Ser	Glu	Ile	Phe	Leu	Leu	Ala	Trp	Ile	His	Cys									
			180					185											

<210> 3

<211> 1068

<212> DNA

<213> homo sapiens

<400> 3

atggaaggt	atgaaaaatt	agctaagact	ggagaagggt	cttatgggggt	tgtattcaaa	60
tgcagaaaca	aaacctctgg	acaagtagta	gctgttaaaa	aatttgtgga	atctgaagat	120
gatcctgttg	ttaagaaaat	agcactaaga	gaaatacgta	tgttgaagca	attaaaacat	180
ccaaatcttg	tgaacctcat	cgagggtgttc	aggagaaaaa	ggaaaatgca	tttagttttt	240
gaatactgtg	atcatacact	tttaaagtga	ctggaaagaa	acccaaatgg	agttgctgat	300
ggagtgtatc	aaagcgtatt	atggcaaaca	cttcaagctc	ttaatttctg	tcatatacat	360
aactgtattc	acagagatat	aaaacctgaa	aatattctaa	taactaagca	aggaataatc	420
aagatttgtg	acttcggggt	tgcacaaatt	ctgattccag	gagatgccta	caccgattat	480
gtagctacga	gatggtaccg	agctcctgaa	cttcttgttg	gagatactca	gtatggttct	540
tcagtcgata	tatgggctat	tgggtgtgtt	tttgcagagc	tcctgacagg	ccagccactg	600
tggcctggaa	aatcagatgt	ggaccaactt	tatctgataa	tcagaacact	agtagagacg	660
gggtttcgcc	atgttgacca	ggctggtctc	gaactcttga	cgtcaagtga	tccacctgcc	720
gtagcctctc	aaagtgtctg	aattacagga	aaattaatcc	caagacatca	atcaatcttt	780
aaaagtaacg	ggtttttcca	tggcatcagt	atacctgagc	cagaagacat	ggaaactctt	840
gaggaaaagt	tctcagatgt	tcatacctgtg	gctctgaact	tcatgaaggg	gtgtctgaag	900
atgaatccag	atgacagatt	aacctgttcc	caactcctgg	agagctccta	ctttgattct	960
tttcaagagg	cccaaattaa	aagaaaagca	cgtaatgaag	gaagaaacag	aagacgccaa	1020
caggtcagag	gctgtgtttg	gctgctgcag	ctctgctcca	ggctgcat		1068

<210> 4

<211> 356

<212> PRT

<213> homo sapiens

<400> 4

Met	Glu	Lys	Tyr	Glu	Lys	Leu	Ala	Lys	Thr	Gly	Glu	Gly	Ser	Tyr	Gly
1				5					10					15	
Val	Val	Phe	Lys	Cys	Arg	Asn	Lys	Thr	Ser	Gly	Gln	Val	Val	Ala	Val
			20					25					30		
Lys	Lys	Phe	Val	Glu	Ser	Glu	Asp	Asp	Pro	Val	Val	Lys	Lys	Ile	Ala
		35					40					45			
Leu	Arg	Glu	Ile	Arg	Met	Leu	Lys	Gln	Leu	Lys	His	Pro	Asn	Leu	Val
	50					55					60				
Asn	Leu	Ile	Glu	Val	Phe	Arg	Arg	Lys	Arg	Lys	Met	His	Leu	Val	Phe
65					70					75				80	
Glu	Tyr	Cys	Asp	His	Thr	Leu	Leu	Asn	Glu	Leu	Glu	Arg	Asn	Pro	Asn

ctggagagct cctactttga ttcttttcaa gaggcccaaa ttaaaagaaa agcacgtaat	900
gaaggaagaa acagaagacg ccaacaggtc agaggctgtg tttggctgct gcagctctgc	960
tccaggtgc at	972

<210> 6
 <211> 324
 <212> PRT
 <213> homo sapiens

<400> 6

Met	Glu	Lys	Tyr	Glu	Lys	Leu	Ala	Lys	Thr	Gly	Glu	Gly	Ser	Tyr	Gly
1				5					10					15	
Val	Val	Phe	Lys	Cys	Arg	Asn	Lys	Thr	Ser	Gly	Gln	Val	Val	Ala	Val
			20					25					30		
Lys	Lys	Phe	Val	Glu	Ser	Glu	Asp	Pro	Val	Val	Lys	Lys	Ile	Ala	
		35					40				45				
Leu	Arg	Glu	Ile	Arg	Met	Leu	Lys	Gln	Leu	Lys	His	Pro	Asn	Leu	Val
	50					55					60				
Asn	Leu	Ile	Glu	Val	Phe	Arg	Arg	Lys	Arg	Lys	Met	His	Leu	Val	Phe
65					70					75					80
Glu	Tyr	Cys	Asp	His	Thr	Leu	Leu	Asn	Glu	Leu	Glu	Arg	Asn	Pro	Asn
				85					90					95	
Gly	Val	Ala	Asp	Gly	Val	Ile	Lys	Ser	Val	Leu	Trp	Gln	Thr	Leu	Gln
		100						105					110		
Ala	Leu	Asn	Phe	Cys	His	Ile	His	Asn	Cys	Ile	His	Arg	Asp	Ile	Lys
		115						120				125			
Pro	Glu	Asn	Ile	Leu	Ile	Thr	Lys	Gln	Gly	Ile	Ile	Lys	Ile	Cys	Asp
	130					135					140				
Phe	Gly	Phe	Ala	Gln	Ile	Leu	Ile	Pro	Gly	Asp	Ala	Tyr	Thr	Asp	Tyr
145					150					155					160
Val	Ala	Thr	Arg	Trp	Tyr	Arg	Ala	Pro	Glu	Leu	Leu	Val	Gly	Asp	Thr
			165						170					175	
Gln	Tyr	Gly	Ser	Ser	Val	Asp	Ile	Trp	Ala	Ile	Gly	Cys	Val	Phe	Ala
		180						185					190		
Glu	Leu	Leu	Thr	Gly	Gln	Pro	Leu	Trp	Pro	Gly	Lys	Ser	Asp	Val	Asp
	195						200					205			
Gln	Leu	Tyr	Leu	Ile	Ile	Arg	Thr	Leu	Gly	Lys	Leu	Ile	Pro	Arg	His
	210					215						220			
Gln	Ser	Ile	Phe	Lys	Ser	Asn	Gly	Phe	Phe	His	Gly	Ile	Ser	Ile	Pro
225					230					235					240
Glu	Pro	Glu	Asp	Met	Glu	Thr	Leu	Glu	Glu	Lys	Phe	Ser	Asp	Val	His
			245						250					255	
Pro	Val	Ala	Leu	Asn	Phe	Met	Lys	Gly	Cys	Leu	Lys	Met	Asn	Pro	Asp
		260						265					270		
Asp	Arg	Leu	Thr	Cys	Ser	Gln	Leu	Leu	Glu	Ser	Ser	Tyr	Phe	Asp	Ser
		275					280					285			
Phe	Gln	Glu	Ala	Gln	Ile	Lys	Arg	Lys	Ala	Arg	Asn	Glu	Gly	Arg	Asn
	290					295					300				
Arg	Arg	Arg	Gln	Gln	Val	Arg	Gly	Cys	Val	Trp	Leu	Leu	Gln	Leu	Cys
305					310					315					320
Ser	Arg	Leu	His												

<210> 7
 <211> 594
 <212> DNA

<213> homo sapiens

<400> 7

```
atggaaaagt atgaaaaatt agctaagact ggagaagggt cttatggggt tgtattcaaa      60
tgcagaaaca aaacctctgg acaagtagta gctgttaaaa aatttgtgga atctgaagat      120
gatcctgttg ttaagaaaat agcactaaga gaaatacgta tgttgaagca attaaaacat      180
ccaaatcttg tgaacctcat cgagggtgtc aggagaaaaa ggaaaatgca tttagttttt      240
gaatactgtg atcatacact tttaaatgag ctggaaagaa acccaaatgg agttgctgat      300
ggagtgatca aaagcgtatt atggcaaaca cttcaagctc ttaatttctg tcatatacat      360
aactgtattc acagagatat aaaacctgaa aatattctaa taactaagca aggaataatc      420
aagatttgtg acttcggggt tgcacaaatt ctgagttgga cttcatcttt ctctgggtgcc      480
tccttgattg gcttaatagt tgaccttctg aattcttttt ctgccaattc agagattttt      540
ctcctggctt ggatccattg ctggaaaatt aatcccaaga catcaatcaa tctt          594
```

<210> 8

<211> 198

<212> PRT

<213> homo sapiens

<400> 8

```
Met Glu Lys Tyr Glu Lys Leu Ala Lys Thr Gly Glu Gly Ser Tyr Gly
 1          5          10          15
Val Val Phe Lys Cys Arg Asn Lys Thr Ser Gly Gln Val Val Ala Val
 20          25          30
Lys Lys Phe Val Glu Ser Glu Asp Asp Pro Val Val Lys Lys Ile Ala
 35          40          45
Leu Arg Glu Ile Arg Met Leu Lys Gln Leu Lys His Pro Asn Leu Val
 50          55          60
Asn Leu Ile Glu Val Phe Arg Arg Lys Arg Lys Met His Leu Val Phe
 65          70          75          80
Glu Tyr Cys Asp His Thr Leu Leu Asn Glu Leu Glu Arg Asn Pro Asn
 85          90          95
Gly Val Ala Asp Gly Val Ile Lys Ser Val Leu Trp Gln Thr Leu Gln
100          105          110
Ala Leu Asn Phe Cys His Ile His Asn Cys Ile His Arg Asp Ile Lys
115          120          125
Pro Glu Asn Ile Leu Ile Thr Lys Gln Gly Ile Ile Lys Ile Cys Asp
130          135          140
Phe Gly Phe Ala Gln Ile Leu Ser Trp Thr Ser Ser Phe Ser Gly Ala
145          150          155          160
Ser Leu Ile Gly Leu Ile Val Asp Leu Leu Asn Ser Phe Ser Ala Asn
165          170          175
Ser Glu Ile Phe Leu Leu Ala Trp Ile His Cys Trp Lys Ile Asn Pro
180          185          190
Lys Thr Ser Ile Asn Leu
195
```

<210> 9

<211> 1041

<212> DNA

<213> homo sapiens

<400> 9

```
atggaaaagt atgaaaaatt agctaagact ggagaagggt cttatggggt tgtattcaaa      60
tgcagaaaca aaacctctgg acaagtagta gctgttaaaa aatttgtgga atctgaagat      120
gatcctgttg ttaagaaaat agcactaaga gaaatacgta tgttgaagca attaaaacat      180
```

ccaaatcttg	tgaacctcat	cgagggtgttc	aggagaaaaa	ggaaaatgca	tttagttttt	240
gaatactgtg	atcatacact	tttaaagtag	ctggaaagaa	acccaaatgg	agttgctgat	300
ggagtgatca	aaagcgtatt	atggcaaaca	cttcaagctc	ttaatttctg	tcatatacat	360
aactgtattc	acagagatat	aaaacctgaa	aatattctaa	taactaagca	aggaataatc	420
aagatttggtg	acttcgggtt	tgacaaaatt	ctgattccag	gagatgccta	caccgattat	480
gtagctacga	gatggtaccg	agctcctgaa	cttcttggtg	gagatactca	gtatggttct	540
tcagtcgata	tatgggctat	tgggttggtt	tttgacagagc	tcctgacagg	ccagccactg	600
tggcctggaa	aatcagatgt	ggaccaactt	tatctgataa	tcagaacact	agtagagacg	660
gggtttcgcc	atggttgacca	ggctgggtctc	gaactcttga	cgtcaagtga	tccacctgcc	720
gtagcctctc	aaagtgctgg	aattacagga	aaattaatcc	caagacatca	atcaatcttt	780
aaaagtaacg	ggtttttcca	tggcatcagt	atacctgagc	cagaagacat	ggaaactctt	840
gaggaaaagt	tctcagatgt	tcattcctgtg	gctctgaact	tcattgaagg	gtgtctgaag	900
atgaatccag	atgacagatt	aacctgttcc	caactcctgg	agagctccta	ctttgattct	960
tttcaagagg	cccaaattaa	aagaaaagca	cgtaatgaag	gaagaaacag	aagacgccaa	1020
caggtacttc	cgctcaaaag	t				1041

<210> 10

<211> 347

<212> PRT

<213> homo sapiens

<400> 10

Met	Glu	Lys	Tyr	Glu	Lys	Leu	Ala	Lys	Thr	Gly	Glu	Gly	Ser	Tyr	Gly
1				5					10					15	
Val	Val	Phe	Lys	Cys	Arg	Asn	Lys	Thr	Ser	Gly	Gln	Val	Val	Ala	Val
			20					25					30		
Lys	Lys	Phe	Val	Glu	Ser	Glu	Asp	Asp	Pro	Val	Val	Lys	Lys	Ile	Ala
		35					40					45			
Leu	Arg	Glu	Ile	Arg	Met	Leu	Lys	Gln	Leu	Lys	His	Pro	Asn	Leu	Val
	50					55					60				
Asn	Leu	Ile	Glu	Val	Phe	Arg	Arg	Lys	Arg	Lys	Met	His	Leu	Val	Phe
65					70					75				80	
Glu	Tyr	Cys	Asp	His	Thr	Leu	Leu	Asn	Glu	Leu	Glu	Arg	Asn	Pro	Asn
				85					90					95	
Gly	Val	Ala	Asp	Gly	Val	Ile	Lys	Ser	Val	Leu	Trp	Gln	Thr	Leu	Gln
			100						105					110	
Ala	Leu	Asn	Phe	Cys	His	Ile	His	Asn	Cys	Ile	His	Arg	Asp	Ile	Lys
		115						120					125		
Pro	Glu	Asn	Ile	Leu	Ile	Thr	Lys	Gln	Gly	Ile	Ile	Lys	Ile	Cys	Asp
	130						135					140			
Phe	Gly	Phe	Ala	Gln	Ile	Leu	Ile	Pro	Gly	Asp	Ala	Tyr	Thr	Asp	Tyr
145					150					155					160
Val	Ala	Thr	Arg	Trp	Tyr	Arg	Ala	Pro	Glu	Leu	Leu	Val	Gly	Asp	Thr
			165						170					175	
Gln	Tyr	Gly	Ser	Ser	Val	Asp	Ile	Trp	Ala	Ile	Gly	Cys	Val	Phe	Ala
		180						185					190		
Glu	Leu	Leu	Thr	Gly	Gln	Pro	Leu	Trp	Pro	Gly	Lys	Ser	Asp	Val	Asp
	195						200					205			
Gln	Leu	Tyr	Leu	Ile	Ile	Arg	Thr	Leu	Val	Glu	Thr	Gly	Phe	Arg	His
	210					215					220				
Val	Asp	Gln	Ala	Gly	Leu	Glu	Leu	Leu	Thr	Ser	Ser	Asp	Pro	Pro	Ala
225					230					235					240
Val	Ala	Ser	Gln	Ser	Ala	Gly	Ile	Thr	Gly	Lys	Leu	Ile	Pro	Arg	His
			245						250					255	
Gln	Ser	Ile	Phe	Lys	Ser	Asn	Gly	Phe	Phe	His	Gly	Ile	Ser	Ile	Pro
		260						265					270		

Glu	Pro	Glu	Asp	Met	Glu	Thr	Leu	Glu	Glu	Lys	Phe	Ser	Asp	Val	His
		275					280					285			
Pro	Val	Ala	Leu	Asn	Phe	Met	Lys	Gly	Cys	Leu	Lys	Met	Asn	Pro	Asp
		290					295				300				
Asp	Arg	Leu	Thr	Cys	Ser	Gln	Leu	Leu	Glu	Ser	Ser	Tyr	Phe	Asp	Ser
305					310					315				320	
Phe	Gln	Glu	Ala	Gln	Ile	Lys	Arg	Lys	Ala	Arg	Asn	Glu	Gly	Arg	Asn
				325					330					335	
Arg	Arg	Arg	Gln	Gln	Val	Leu	Pro	Leu	Lys	Ser					
			340					345							

<210> 11
 <211> 945
 <212> DNA
 <213> homo sapiens

<400> 11

atggaaaagt	atgaaaaatt	agctaagact	ggagaagggt	cttatggggt	tgtattcaaa	60
tgagaaaaca	aaacctctgg	acaagtagta	gctgttaaaa	aatttgtgga	atctgaagat	120
gattcctgttg	ttaagaaaat	agcactaaga	gaaatacgtg	tggtgaagca	attaaaacat	180
ccaaatcttg	tgaacctcat	cgagggtgttc	aggagaaaaa	ggaaaatgca	tttagttttt	240
gaatactgtg	atcatacact	tttaaagtga	ctggaaagaa	acccaaatgg	agttgctgat	300
ggagtgtatc	aaagcgtatt	atggcaaaca	cttcaagctc	ttaatttctg	tcatatacat	360
aactgtattc	acagagatat	aaaacctgaa	aatattctaa	taactaagca	aggaataatc	420
aagatttgtg	acttcgggtt	tgacacaaat	ctgattccag	gagatgccta	caccgattat	480
gtagctacga	gatgggtaccg	agctcctgaa	cttcttgtgg	gagatactca	gtatgggttct	540
tcagtcgata	tatgggtctat	tggttgtgtt	tttgcagagc	tcctgacagg	ccagccactg	600
tggcctggaa	aatcagatgt	ggaccaactt	tatctgataa	tcagaacact	aggaaaatta	660
atcccaagac	atcaatcaat	ctttaaagt	aacgggtttt	tccatggcat	cagtatacct	720
gagccagaag	acatggaaac	tcttgaggaa	aagttctcag	atgttcatcc	tgtggctctg	780
aacttcatga	aggggtgtct	gaagatgaat	ccagatgaca	gattaacctg	ttcccaactc	840
ctggagagct	cctactttga	ttcttttcaa	gaggcccaaa	ttaaaagaaa	agcacgtaat	900
gaaggaagaa	acagaagacg	ccaacaggta	cttccgctca	aaagt		945

<210> 12
 <211> 315
 <212> PRT
 <213> homo sapiens

<400> 12

Met	Glu	Lys	Tyr	Glu	Lys	Leu	Ala	Lys	Thr	Gly	Glu	Gly	Ser	Tyr	Gly
1				5					10					15	
Val	Val	Phe	Lys	Cys	Arg	Asn	Lys	Thr	Ser	Gly	Gln	Val	Val	Ala	Val
			20					25					30		
Lys	Lys	Phe	Val	Glu	Ser	Glu	Asp	Asp	Pro	Val	Val	Lys	Lys	Ile	Ala
		35				40					45				
Leu	Arg	Glu	Ile	Arg	Met	Leu	Lys	Gln	Leu	Lys	His	Pro	Asn	Leu	Val
50					55					60					
Asn	Leu	Ile	Glu	Val	Phe	Arg	Arg	Lys	Arg	Lys	Met	His	Leu	Val	Phe
65				70					75					80	
Glu	Tyr	Cys	Asp	His	Thr	Leu	Leu	Asn	Glu	Leu	Glu	Arg	Asn	Pro	Asn
			85					90					95		
Gly	Val	Ala	Asp	Gly	Val	Ile	Lys	Ser	Val	Leu	Trp	Gln	Thr	Leu	Gln
		100					105					110			
Ala	Leu	Asn	Phe	Cys	His	Ile	His	Asn	Cys	Ile	His	Arg	Asp	Ile	Lys
		115				120						125			

Pro	Glu	Asn	Ile	Leu	Ile	Thr	Lys	Gln	Gly	Ile	Ile	Lys	Ile	Cys	Asp
130						135					140				
Phe	Gly	Phe	Ala	Gln	Ile	Leu	Ile	Pro	Gly	Asp	Ala	Tyr	Thr	Asp	Tyr
145					150					155					160
Val	Ala	Thr	Arg	Trp	Tyr	Arg	Ala	Pro	Glu	Leu	Leu	Val	Gly	Asp	Thr
				165						170				175	
Gln	Tyr	Gly	Ser	Ser	Val	Asp	Ile	Trp	Ala	Ile	Gly	Cys	Val	Phe	Ala
			180					185					190		
Glu	Leu	Leu	Thr	Gly	Gln	Pro	Leu	Trp	Pro	Gly	Lys	Ser	Asp	Val	Asp
		195					200					205			
Gln	Leu	Tyr	Leu	Ile	Ile	Arg	Thr	Leu	Gly	Lys	Leu	Ile	Pro	Arg	His
		210				215						220			
Gln	Ser	Ile	Phe	Lys	Ser	Asn	Gly	Phe	Phe	His	Gly	Ile	Ser	Ile	Pro
225					230					235					240
Glu	Pro	Glu	Asp	Met	Glu	Thr	Leu	Glu	Glu	Lys	Phe	Ser	Asp	Val	His
			245						250					255	
Pro	Val	Ala	Leu	Asn	Phe	Met	Lys	Gly	Cys	Leu	Lys	Met	Asn	Pro	Asp
		260						265					270		
Asp	Arg	Leu	Thr	Cys	Ser	Gln	Leu	Leu	Glu	Ser	Ser	Tyr	Phe	Asp	Ser
		275					280					285			
Phe	Gln	Glu	Ala	Gln	Ile	Lys	Arg	Lys	Ala	Arg	Asn	Glu	Gly	Arg	Asn
	290					295					300				
Arg	Arg	Arg	Gln	Gln	Val	Leu	Pro	Leu	Lys	Ser					
305					310					315					

<210> 13
 <211> 1819
 <212> DNA
 <213> homo sapiens

<400> 13

ctccgagcga	cacgcgcggg	agctggggct	ggggctgttc	ggcgctgctc	gaagcttcgt	60
caccgtcgcc	ctgtgggtgc	agtgcagcat	tgtactgcaa	gtcaatcgat	acaataattt	120
aagtcacttc	agctataatg	gaaaagtagt	aaaaattagc	taagactgga	gaagggtcct	180
atggggttgt	attcaaatgc	agaaacaaaa	cctctggaca	agtagtagct	gttaaaaaat	240
ttgtggaatc	tgaagatgat	cctgttggtt	agaaaatagc	actaagagaa	atacgtatgt	300
tgaagcaatt	aaaacatcca	aatcttgtga	acctcatcga	ggtgttcagg	agaaaaagga	360
aaatgcattt	agtttttgaa	tactgtgata	atacactttt	aaatgagctg	gaaagaaacc	420
caaatggagt	tgtgatgga	gtgatcaaaa	gcgtattatg	gcaaacactt	caagctctta	480
atttctgtca	tatacataac	tgtattcaca	gagatataaa	acctgaaaat	attctaataa	540
ctaagcaagg	aataatcaag	atttgtgact	tcgggtttgc	acaaattctg	agttggactt	600
catctttctc	tgggtgcctcc	ttgattggct	taatagttga	ccttctgaat	tctttttctg	660
ccaattcaga	gattttttctc	ctggcttgga	tccattgctg	acacagtgtt	tcaccatggg	720
gcccaggctc	atctcgaaat	tctggcctca	agtgatcctt	ccacctgggc	ctcccaaagt	780
gctggattgc	aagtgtgagc	caccgtgccc	agccagattt	ttcaaacaat	aactactgag	840
agctcacaag	attgttttta	gtgggaacac	aatttcgaac	aaattcttga	gaacgcattc	900
caggagatgc	ctacaccgat	tatgtagcta	cgagatggta	ccgagctcct	gaacttcttg	960
tgggagatac	tcagtatggg	tcttcagctg	atatatgggc	tattggttgt	gtttttgcag	1020
agctcctgac	aggccagcca	ctgtggcctg	gaaaatcaga	tgtggacca	ctttatctga	1080
taatcagaac	actagtagag	acgggggttc	gccatgttga	ccaggctggt	ctcgaactct	1140
tgacgtcaag	tgatccacct	gccgtagcct	ctcaaagtgc	tgggaattaca	ggaaaattaa	1200
tcccaagaca	tcaatcaatc	tttaaaagta	acgggttttt	ccatggcatc	agtatacttg	1260
agccagaaga	catggaaact	cttgaggaaa	agttctcaga	tgttcacatc	gtggctctga	1320
acttcatgaa	ggggtgtctg	aagatgaatc	cagatgacag	attaacctgt	tcccaactcc	1380
tggagagctc	ctactttgat	tcttttcaag	aggcccaaat	taaaagaaaa	gcacgtaatg	1440
aaggaagaaa	cagaagacgc	caacagggtc	gaggctgtgt	ttggctgctg	cagctctgct	1500

ccaggctgca	ttgagaatcg	atttcgagtg	tottctcatt	cagggaccca	gccaggagc	1560
agctcatatg	ggaaatatgc	ccttctcatg	gcagaggccc	gaacttgaat	acctaattgc	1620
tgtcaggagt	gacttccgct	caaaagttaa	agtgcataa	aaataattcc	ttttttgttt	1680
ttgrttggct	gcctttcaaa	gtgagacaag	gtggacacca	agacctttca	tttgtactgg	1740
tgtagtgatt	gctagcttaa	taaatattgg	gaattgatgt	ataaaaccct	agactatgaa	1800
aatatcaaaa	aaaaaaaaa					1819